SERVICE MANUAL
Level 1&2

NOKIA E90

RA-6

Transceiver characteristics:

Band:

EGSM: Quad-band 850/900/1800/1900MHz

WCDMA: 2100MHz

Display:

Inner - LCD: Active matrix color display (800x352 pixels); 16M colors

Outer - LCD: Active matrix color display (240x320 pixels); 16M colors

Camera:

Main Camera: 3.2 Megapixel with flash and autofocus

Sub Camera: QCIF camera for video calling

Operating System:

Series 60

Connections:

Wireless: WLAN, Bluetooth, IRDA, GPS

Connector: Mini USB Connector; AV Connector

Memory:

MicroSD™ (max 2GB)

Transceiver with BP-4L Li-Ion battery pack

Talk time	Standby	Note
up to 5h	up to 14days	Depends on network parameters

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1. CHANGE HISTORY

Status	Version No.	Date	Comments
Draft	0.1	05.Apr.2007	Initial draft
Approved	1.0	07.May.2007	Approval

The purpose of this document is to help NOKIA service levels 1 and 2 workshop technicians to carry out service to NOKIA products. This Service Manual is to be used only by authorized NOKIA service suppliers, and the content of it is confidential. Please note that NOKIA provides also other guidance documents (e.g. Service Bulletins) for service suppliers, follow these regularly and comply with the given instructions.

While every endeavor has been made to ensure the accuracy of this document, some errors may exist.
If you find any errors or if you have further suggestions, please notify NOKIA using the address below:

CMO Operation & Logistics
Training and Vendor Development
Multimedia Creation & Support
mailto:Service.Manual@nokia.com

Please keep in mind also that this documentation is continuously being updated and modified, so watch always out for the newest version.

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The availability of particular products may vary by region.
IMPORTANT
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3. WARNINGS AND CAUTIONS

Warnings and Cautions

Please refer to the phone's user guide for instructions relating to operation, care and maintenance including important safety information. Note also the following:

Warnings:

1. CARE MUST BE TAKEN ON INSTALLATION IN VEHICLES FITTED WITH ELECTRONIC ENGINE MANAGEMENT SYSTEMS AND ANTI–SKID BRAKING SYSTEMS. UNDER CERTAIN FAULT CONDITIONS, EMITTED RF ENERGY CAN AFFECT THEIR OPERATION. IF NECESSARY, CONSULT THE VEHICLE DEALER/MANUFACTURER TO DETERMINE THE IMMUNITY OF VEHICLE ELECTRONIC SYSTEMS TO RF ENERGY.
2. THE HANDPORTABLE TELEPHONE MUST NOT BE OPERATED IN AREAS LIKELY TO CONTAIN POTENTIALLY EXPLOSIVE ATMOSPHERES, EG PETROL STATIONS (SERVICE STATIONS), BLASTING AREAS ETC.
3. OPERATION OF ANY RADIO TRANSMITTING EQUIPMENT, INCLUDING CELLULAR TELEPHONES, MAY INTERFERE WITH THE FUNCTIONALITY OF INADEQUATELY PROTECTED MEDICAL DEVICES. CONSULT A PHYSICIAN OR THE MANUFACTURER OF THE MEDICAL DEVICE IF YOU HAVE ANY QUESTIONS. OTHER ELECTRONIC EQUIPMENT MAY ALSO BE SUBJECT TO INTERFERENCE.

Cautions:

1. Servicing and alignment must be undertaken by qualified personnel only.
2. Ensure all work is carried out at an anti–static workstation and that an anti–static wrist strap is worn.
3. Use only approved components as specified in the parts list.
4. Ensure all components, modules screws and insulators are correctly re–fitted after servicing and alignment.
5. Ensure all cables and wires are repositioned correctly.

4. ESD PROTECTION

Nokia requires that service points have sufficient ESD protection (against static electricity) when servicing the phone.
Any product of which the covers are removed must be handled with ESD protection. The SIM card can be replaced without ESD protection if the product is otherwise ready for use.
To replace the covers ESD protection must be applied.
All electronic parts of the product are susceptible to ESD. Resistors, too, can be damaged by static electricity discharge.
All ESD sensitive parts must be packed in metallized protective bags during shipping and handling outside any ESD Protected Area (EPA).
Every repair action involving opening the product or handling the product components must be done under ESD protection.
ESD protected spare part packages MUST NOT be opened/closed out of an ESD Protected Area.
For more information and local requirements about ESD protection and ESD Protected Area, contact your local Nokia After Market Services representative.

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5. CARE AND MAINTENANCE

This product is of superior design and craftsmanship and should be treated with care. The suggestions below will help you to fulfil any warranty obligations and to enjoy this product for many years.
• Keep the phone and all its parts and accessories out of the reach of small children.
• Keep the phone dry. Precipitation, humidity and all types of liquids or moisture can contain minerals that will corrode electronic circuits.
• Do not use or store the phone in dusty, dirty areas. Its moving parts can be damaged.
• Do not store the phone in hot areas. High temperatures can shorten the life of electronic devices, damage batteries, and warp or melt certain plastics.
• Do not store the phone in cold areas. When it warms up (to its normal temperature), moisture can form inside, which may damage electronic circuit boards.
• Do not drop, knock or shake the phone. Rough handling can break internal circuit boards.
• Do not use harsh chemicals, cleaning solvents, or strong detergents to clean the phone.
• Do not paint the phone. Paint can clog the moving parts and prevent proper operation.
• Use only the supplied or an approved replacement antenna. Unauthorised antennas, modifications or attachments could damage the phone and may violate regulations governing radio devices.
All of the above suggestions apply equally to the product, battery, charger or any accessory.

6. BATTERY INFORMATION

Note: A new battery's full performance is achieved only after two or three complete charge and discharge cycles! The battery can be charged and discharged hundreds of times but it will eventually wear out. When the operating time (talk-time and standby time) is noticeably shorter than normal, it is time to buy a new battery. Use only batteries approved by the phone manufacturer and recharge the battery only with the chargers approved by the manufacturer.
Unplug the charger when not in use. Do not leave the battery connected to a charger for longer than a week, since overcharging may shorten its lifetime.
If left unused a fully charged battery will discharge itself over time Temperature extremes can affect the ability of your battery to charge.
For good operation times with Ni-Cd/NiMh batteries, discharge the battery from time to time by leaving the product switched on until it turns itself off (or by using the battery discharge facility of any approved accessory available for the product).
Do not attempt to discharge the battery by any other means Use the battery only for its intended purpose. Never use any charger or battery which is damaged.
Do not short-circuit the battery. Accidental short-circuiting can occur when a metallic object (coin, clip or pen) causes direct connection of the + and - terminals of the battery (metal strips on the battery) for example when you carry a spare battery in your pocket or purse. Short-circuiting the terminals may damage the battery or the connecting object.
Leaving the battery in hot or cold places, such as in a closed car in summer or winter conditions, will reduce the capacity and lifetime of the battery. Always try to keep the battery between 15°C and 25°C (59°F and 77°F). A phone with a hot or cold battery may temporarily not work, even when the battery is fully charged. Batteries' performance is particularly limited in temperatures well below freezing.
Do not dispose batteries in a fire! Dispose of batteries according to local regulations (e.g. recycling). Do not dispose as household waste.

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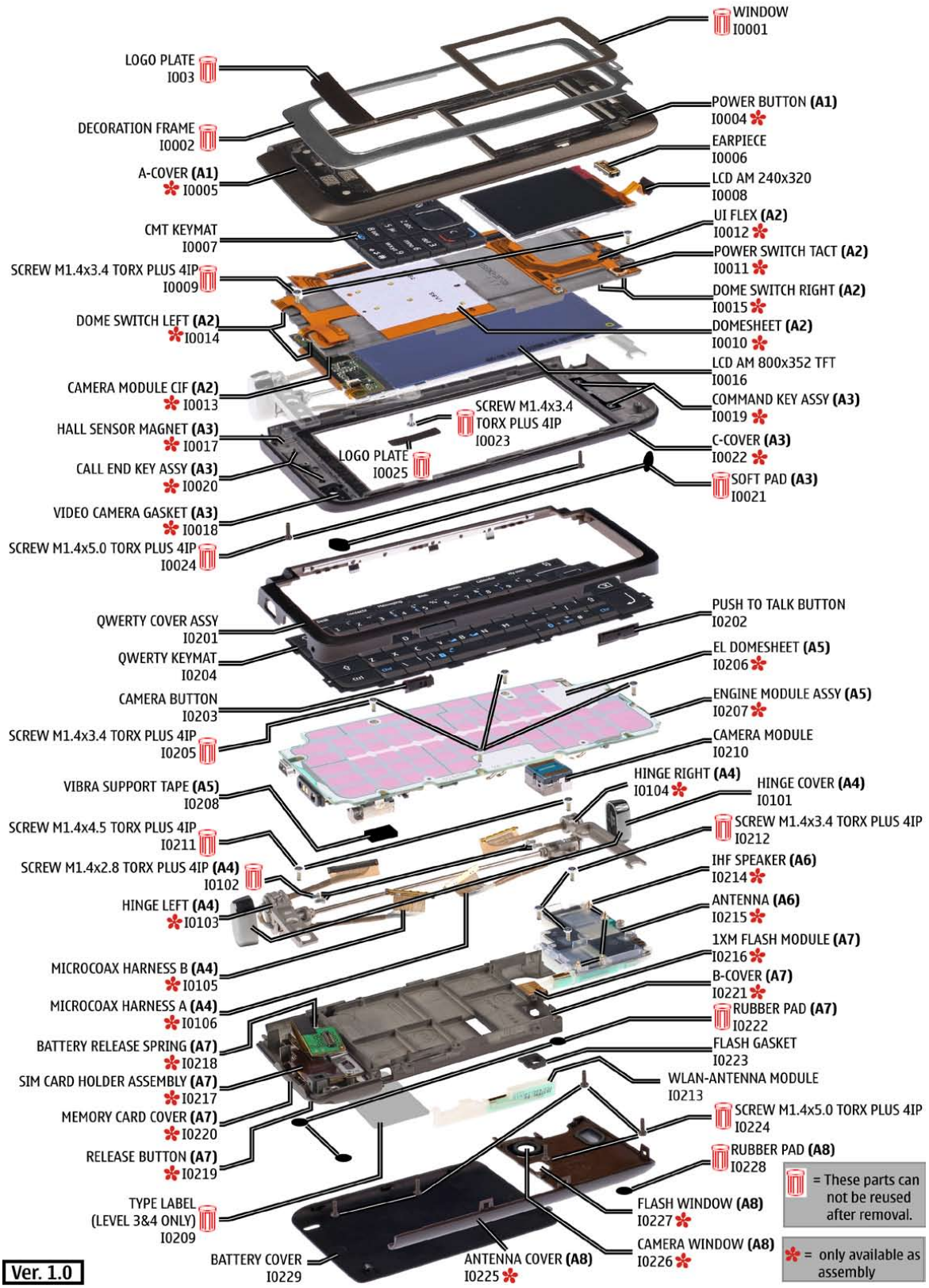
7. EXPLODED VIEW

See corresponding ITEM/CIRCUIT REF in the Spare Parts Service Bulletins on NOL.

E90 RA-6 EXPLODED VIEW


WINDOW I0001
LOGO PLATE I003
POWER BUTTON (A1) I0004
DECORATION FRAME I0002
EARPIECE I0006
A-COVER (A1) I0005
LCD AM 240x320 I0008
CMT KEYMAT I0007
UI FLEX (A2) I0012
SCREW M1.4x3.4 TORX PLUS 4IP I0009
POWER SWITCH TACT (A2) I0011
DOME SWITCH RIGHT (A2) I0015
DOME SWITCH LEFT (A2) I0014
DOMESHEET (A2) I0010
LCD AM 800x352 TFT I0016
CAMERA MODULE CIF (A2) I0013
COMMAND KEY ASSY (A3) I0019
SCREW M1.4x3.4 TORX PLUS 4IP I0023
HALL SENSOR MAGNET (A3) I0017
C-COVER (A3) I0022
LOGO PLATE I0025
CALL END KEY ASSY (A3) I0020
SOFT PAD (A3) I0021
VIDEO CAMERA GASKET (A3) I0018
SCREW M1.4x5.0 TORX PLUS 4IP I0024
QWERTY COVER ASSY I0201
PUSH TO TALK BUTTON I0202
QWERTY KEYMAT I0204
EL DOMESHEET (A5) I0206
CAMERA BUTTON I0203
ENGINE MODULE ASSY (A5) I0207
SCREW M1.4x3.4 TORX PLUS 4IP I0205
CAMERA MODULE I0210
HINGE RIGHT (A4) I0104
VIBRA SUPPORT TAPE (A5) I0208
HINGE COVER (A4) I0101
SCREW M1.4x4.5 TORX PLUS 4IP I0211
SCREW M1.4x3.4 TORX PLUS 4IP I0212
SCREW M1.4x2.8 TORX PLUS 4IP (A4) I0102
IHF SPEAKER (A6) I0214
HINGE LEFT (A4) I0103
ANTENNA (A6) I0215
1XM FLASH MODULE (A7) I0216
MICROCOAX HARNESS B (A4) I0105
B-COVER (A7) I0221
MICROCOAX HARNESS A (A4) I0106
RUBBER PAD (A7) I0222
BATTERY RELEASE SPRING (A7) I0218
FLASH GASKET I0223
SIM CARD HOLDER ASSEMBLY (A7) I0217
WLAN-ANTENNA MODULE I0213
MEMORY CARD COVER (A7) I0220
SCREW M1.4x5.0 TORX PLUS 4IP I0224
RELEASE BUTTON (A7) I0219
RUBBER PAD (A8) I0228
= These parts can not be reused after removal.
TYPE LABEL (LEVEL 3&4 ONLY) I0209
FLASH WINDOW (A8) I0227
CAMERA WINDOW (A8) I0226
= only available as assembly
BATTERY COVER I0229
ANTENNA COVER (A8) I0225
Ver. 1.0

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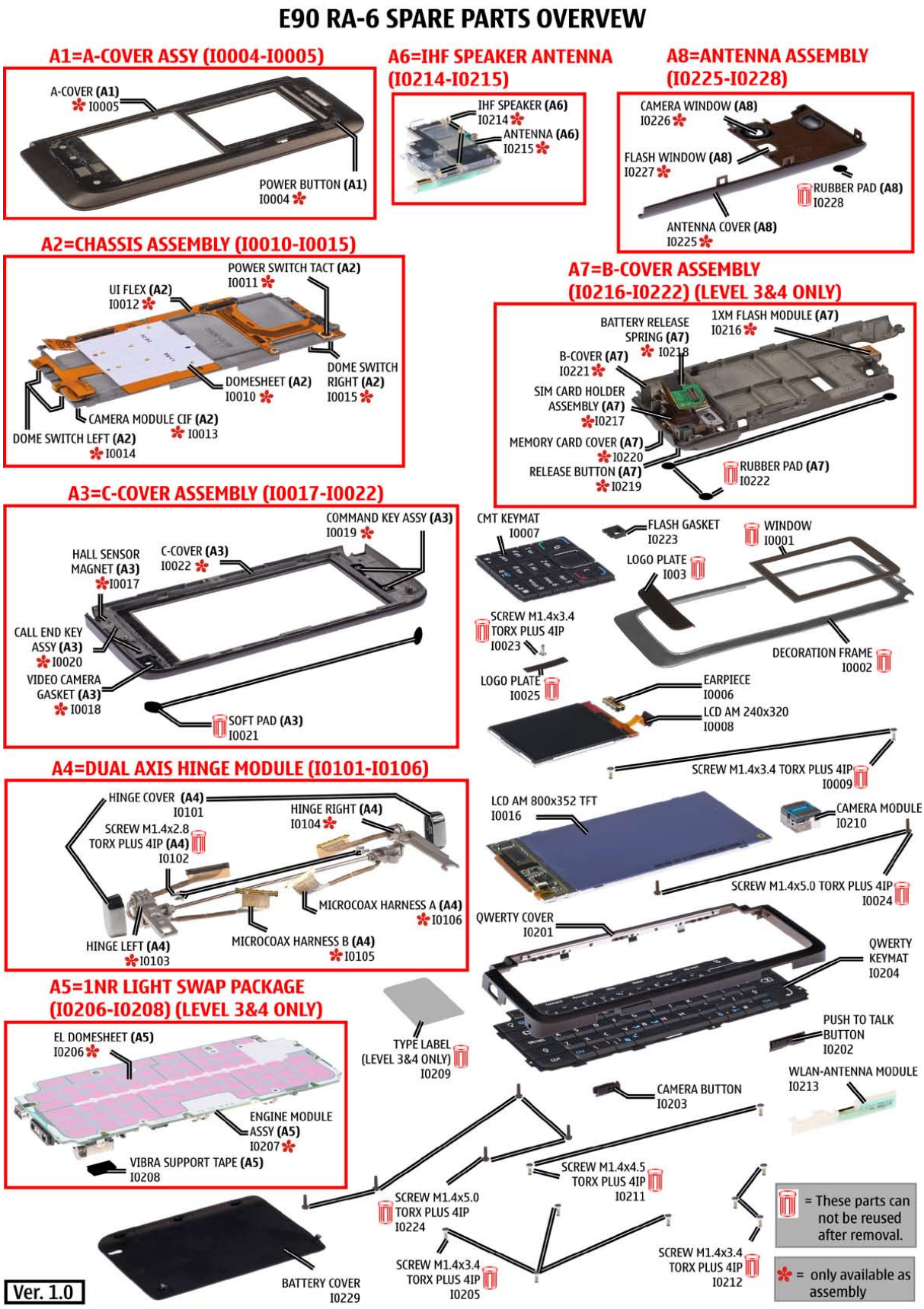
8. SPARE PARTS OVERVIEW


E90 RA-6 SPARE PARTS OVERVEW
A1=A-COVER ASSY (I0004-I0005)
A-COVER (A1) I0005
POWER BUTTON (A1) I0004
A6=IHF SPEAKER ANTENNA (I0214-I0215)
IHF SPEAKER (A6) I0214
ANTENNA (A6) I0215
A8=ANTENNA ASSEMBLY (I0225-I0228)
CAMERA WINDOW (A8) I0226
FLASH WINDOW (A8) I0227
RUBBER PAD (A8) I0228
ANTENNA COVER (A8) I0225
A2=CHASSIS ASSEMBLY (I0010-I0015)
POWER SWITCH TACT (A2) I0011
UI FLEX (A2) I0012
DOMESHEET (A2) I0010
DOME SWITCH RIGHT (A2) I0015
CAMERA MODULE CIF (A2) I0013
DOME SWITCH LEFT (A2) I0014
A7=B-COVER ASSEMBLY (I0216-I0222) (LEVEL 3&4 ONLY)
BATTERY RELEASE SPRING (A7) I0218
1XM FLASH MODULE (A7) I0216
B-COVER (A7) I0221
SIM CARD HOLDER ASSEMBLY (A7) I0217
MEMORY CARD COVER (A7) I0220
RELEASE BUTTON (A7) I0219
RUBBER PAD (A7) I0222
A3=C-COVER ASSEMBLY (I0017-I0022)
COMMAND KEY ASSY (A3) I0019
HALL SENSOR MAGNET (A3) I0017
C-COVER (A3) I0022
CALL END KEY ASSY (A3) I0020
VIDEO CAMERA GASKET (A3) I0018
SOFT PAD (A3) I0021
CMT KEYMAT I0007
FLASH GASKET I0223
WINDOW I0001
LOGO PLATE I003
SCREW M1.4x3.4 TORX PLUS 4IP I0023
DECORATION FRAME I0002
LOGO PLATE I0025
EARPIECE I0006
LCD AM 240x320 I0008
SCREW M1.4x3.4 TORX PLUS 4IP I0009
A4=DUAL AXIS HINGE MODULE (I0101-I0106)
HINGE COVER (A4) I0101
HINGE RIGHT (A4) I0104
SCREW M1.4x2.8 TORX PLUS 4IP (A4) I0102
MICROCOAX HARNESS A (A4) I0106
HINGE LEFT (A4) I0103
MICROCOAX HARNESS B (A4) I0105
LCD AM 800x352 TFT I0016
CAMERA MODULE I0210
SCREW M1.4x5.0 TORX PLUS 4IP I0024
QWERTY COVER I0201
QWERTY KEYMAT I0204
PUSH TO TALK BUTTON I0202
A5=1NR LIGHT SWAP PACKAGE (I0206-I0208) (LEVEL 3&4 ONLY)
EL DOMESHEET (A5) I0206
ENGINE MODULE ASSY (A5) I0207
VIBRA SUPPORT TAPE (A5) I0208
TYPE LABEL (LEVEL 3&4 ONLY) I0209
CAMERA BUTTON I0203
WLAN-ANTENNA MODULE I0213
SCREW M1.4x4.5 TORX PLUS 4IP I0211
SCREW M1.4x5.0 TORX PLUS 4IP I0224
SCREW M1.4x3.4 TORX PLUS 4IP I0205
SCREW M1.4x3.4 TORX PLUS 4IP I0212
BATTERY COVER I0229
= These parts can not be reused after removal.
= only available as assembly
Ver. 1.0

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9. GENERAL RECYCLING RECOMMENDATION

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Training and Vendor Development
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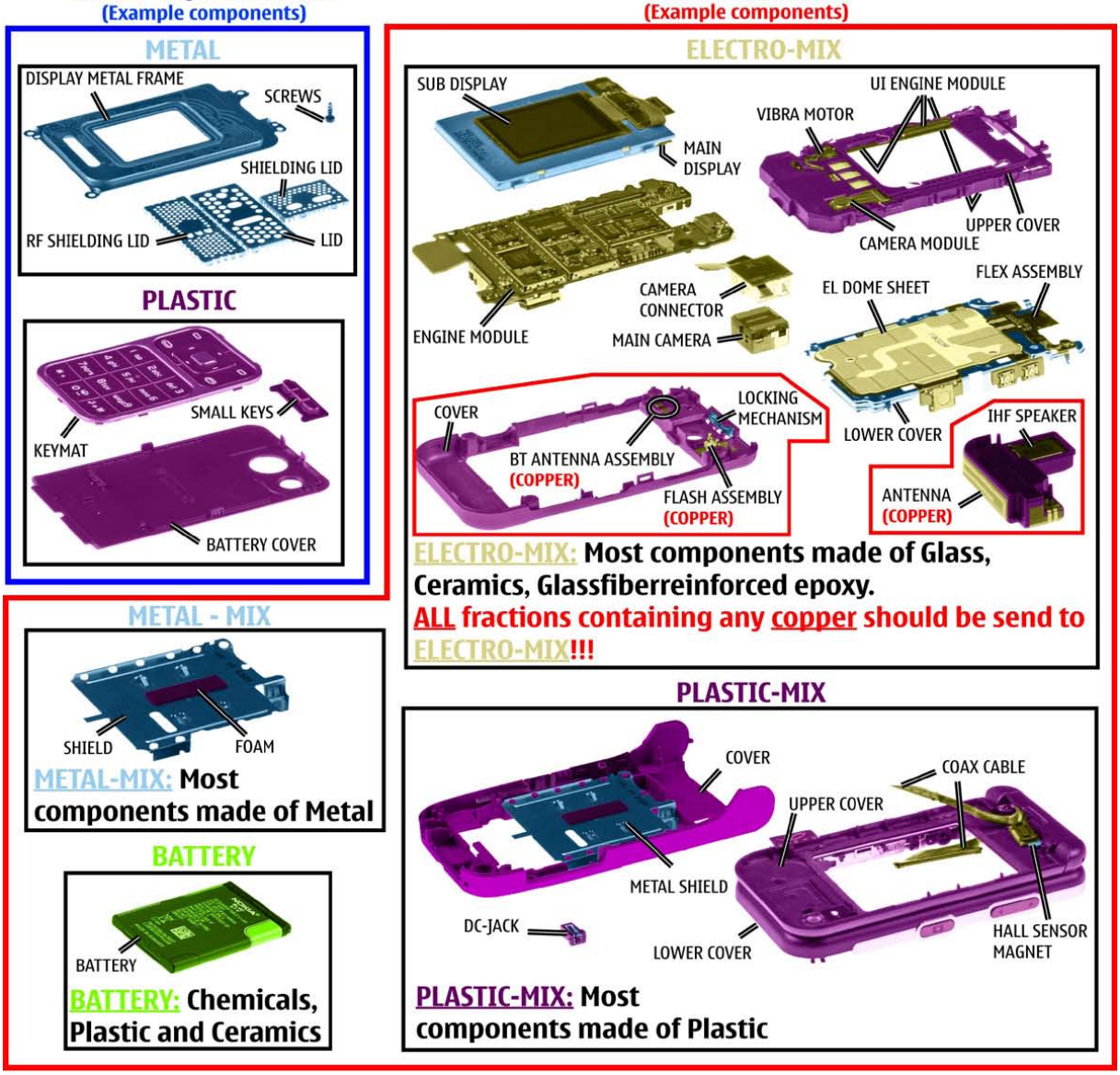
13.11.2006
MGR

General Recycling recommendation

100% - only one Material
(Example components)

Mixed components
(Example components)



Some of these options can be utilized directly and some need pretreatment as for instance dismantling, grinding, milling, etc.
For sorting the waste into fractions for recycling, your recycler will offer you more specific information, but a GENERAL RULE is:
Elecronic Equipment: There are recyclers that can process this "multimaterial" for high recycling yields.
Metals: Fractions containing metals must always be collected and sent for (metal) material recycling.
Plastics: Pure plastics fractions (i.e. covers) can be sent for (plastics) materials recycling.
Mixed Plastic/Metals: A metal fraction contaminated with plastics does not represent a problem for metal recycling/recovery whereas recycling/recovery of plastics is generally sensitive for contamination by other materials.

ELECTRO METAL PLASTIC BATTERY

Ver. 3.0

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10. LEVEL 2 SOLDER COMPONENTS

No solder able components for Level 2

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11. SERVICE TOOLS

FLS-5 incl. ACF-8, Driver and User Guide Dongle and flash device incorporated into one package, developed specifically for POS use.	**ACF-8** Universal Power Supply is used to power FLS-4S.	**Travel Charger AC-4** Small and lightweight charger for fast charging of your phone battery.
DKE-2 Service Cable to connect the PC with the mini USB connector.	**SS-45** Camera removal tool. One side is for disassembly, the other side for assembly.	**RJ-150** Soldering Jig
Internal Battery BP-4L Inserted under the back cover, this Li-Ion battery provides power in a lightweight package.	**Lead-free Solder Wire** Mandatory for lead-free products (Level 2 only).	**0772040** **NMP Standard Toolkit (V2)** For more informations refer to the Service Bulletin (SB-011) on NOKIA Online. Supplier or manufacturer contacts for tool re-order can be found in "**Recommended service equipment**" document on NOKIA Online.

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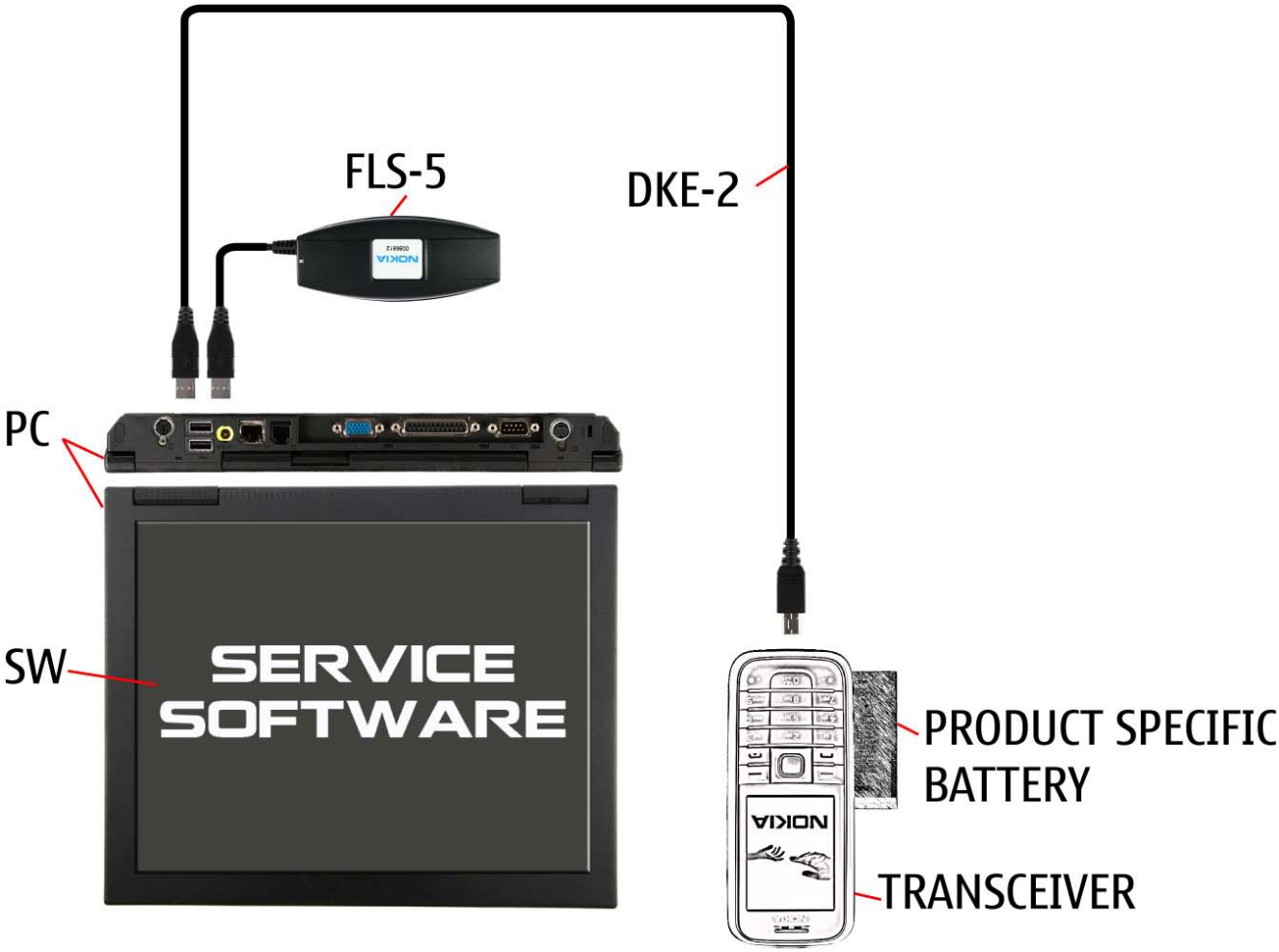
12.SW-UPDATE

Flash Concept – (Point of Sales)

To use FLS-5 Flash Dongle you have to follow the user guide inside the sales package. Please check always for the latest version of flash software, which is available on
NOKIA Online.



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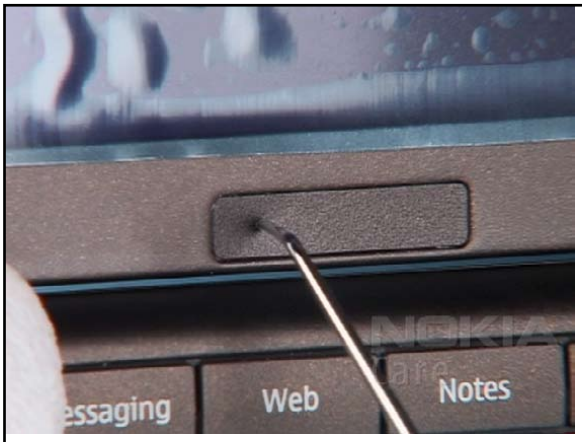
13. UPPER BLOCK DISASSEMBLY

1. You will need the Nokia Standard Toolkit version 2. Also refer the General Mechanical Guideline video for additional hints about the tools and component handling.



2. Open the assembly. Peel up the LOGO PLATE with the dental pick.

3. Discard the LOGO PLATE. Do not use it again when reassembling.

4. Unscrew the 3 Torx Plus size 4 screws in the order shown.

5. Discard these screws. Do not use them again when reassemble.

6. Close the assembly again. Lift up the A-COVER at the hinge side. Move it away from the hinge side. Now it can be removed easily.

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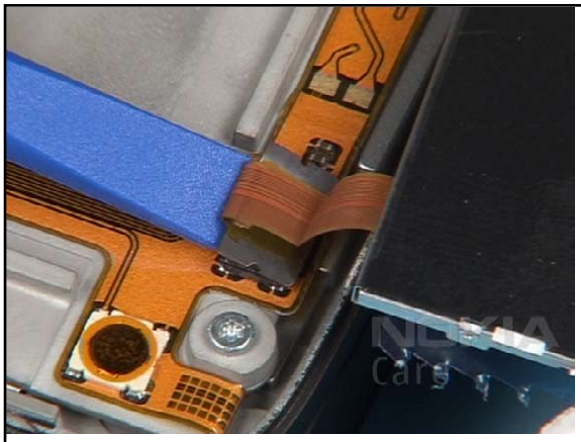
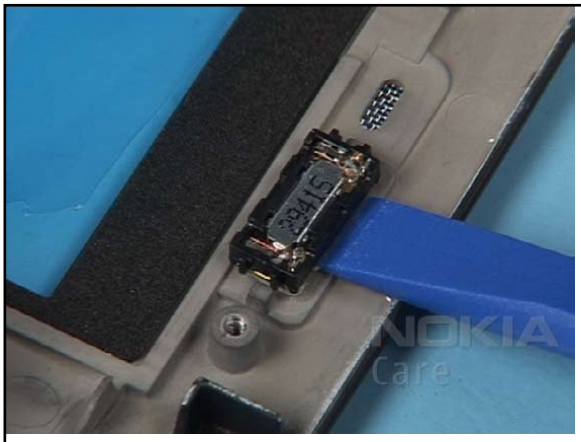
7. Remove the CMT KEYMAT.

8. Lift up the LCD AM.



9. Carefully open the flex connector of the display with the SS-93.



10. Ease out the glued in EARPIECE with the SS-93.

11. Discard it, do not use this part again when reassemble.

12. Unscrew these 2 Torx Plus size 4 screws.

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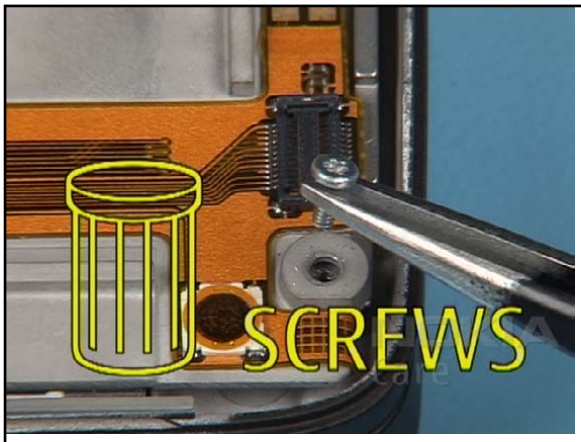
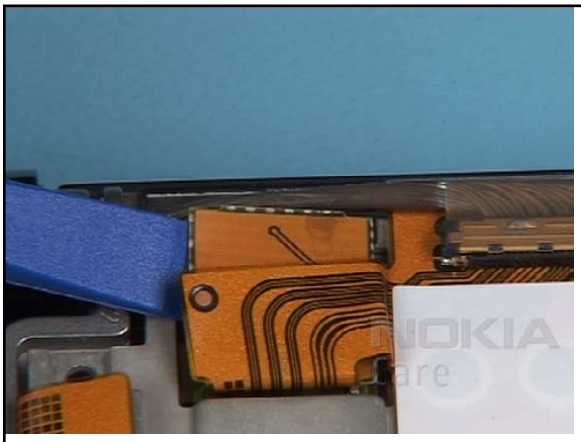


13. Discard them. Do not use them again.

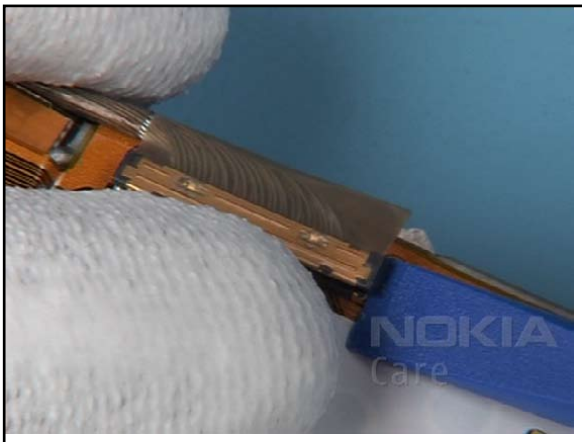


14. Gently lever up the flex connector of the LCD AM 800x352.

15. Open the assembly. Lift up the C-COVER, beginning at the QWERTY KEYMAT side.

16. It is important to protect the surface with a piece of cloth before continuing. Flip over both parts of the hinge.

17. Now turn the CHASSIS ASSEMBLY.



18. Be double carefully while opening these 2 MICROCOAX HARNESS connectors.

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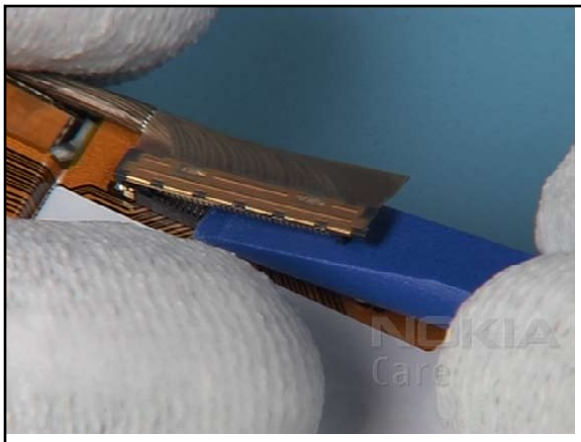

19. It is very important not to bend these connectors while opening. Otherwise the connectors become unusable.

20. Now the CHASSIS ASSEMBLY can be removed.

21. The disassembly procedure is now complete.

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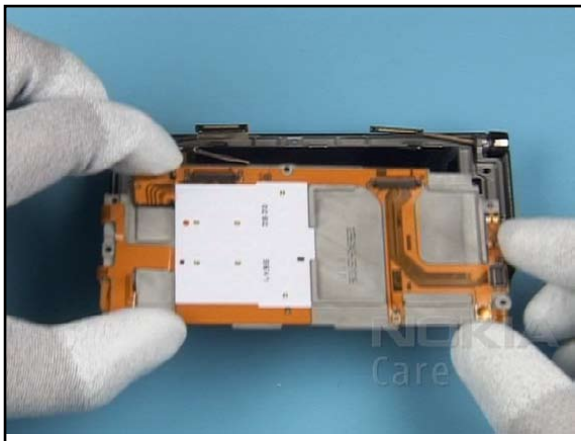
14. UPPER BLOCK ASSEMBLY

1. Assembly.

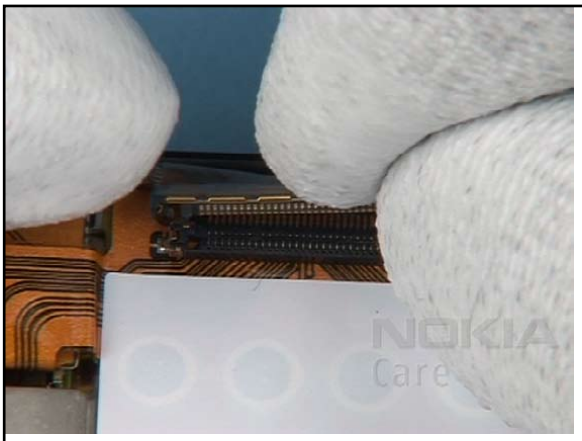
2. Bring the hinge parts in the position shown.

3. Fit the C-COVER. Note the correct alignment to the mounting parts of the hinge.

4. Flip over the C-COVER ASSEMBLY together with the mounting parts of the hinge.



5. Now place the CHASSIS ASSEMBLY.



6. Close both MICROCOAX HARNESS connector. Check for correct fitting of the connectors before going on.

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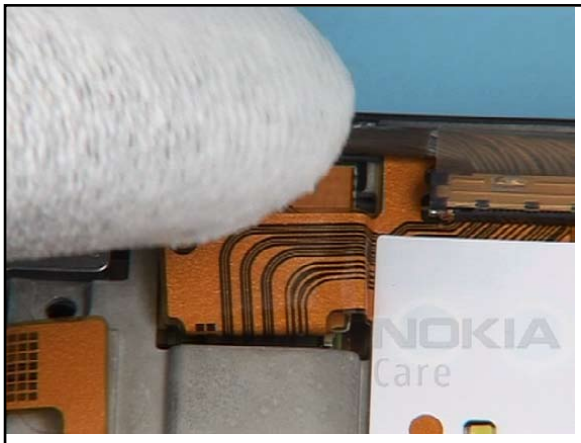
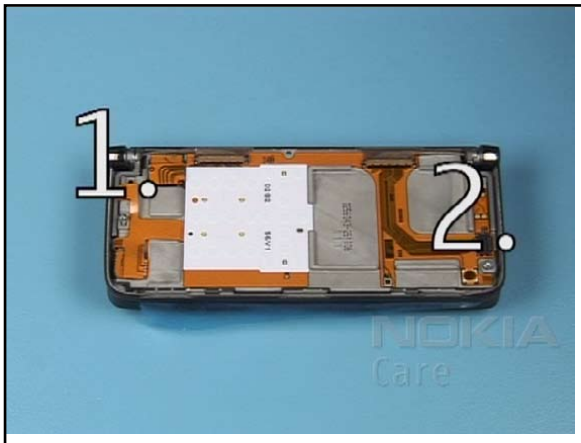


7. Close the LCD connector.

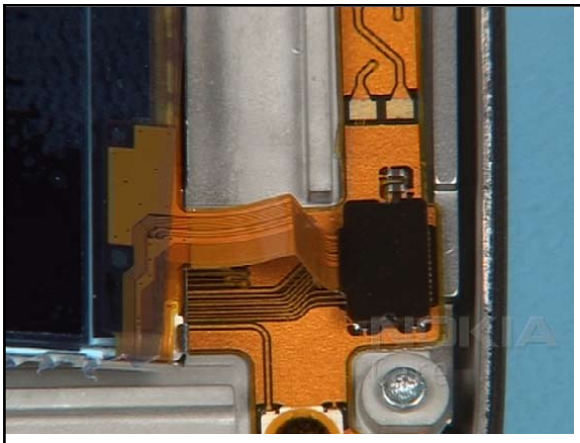
8. Use the short ones of the screws.

9. Insert the two screws.

10. Set the correct torque.



11. Apply the torque to the screws in the shown order.



12. Place the LCD AM 240x320. Close the flex foil connector.

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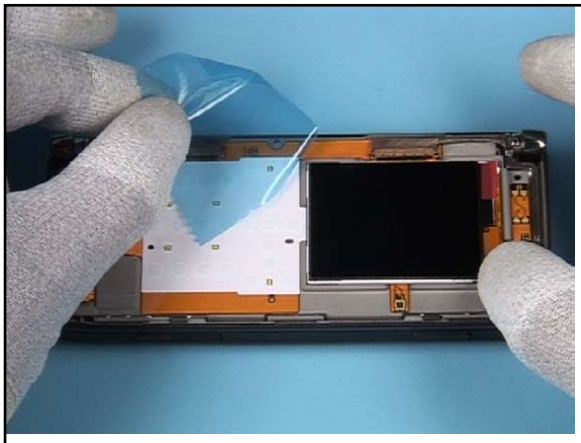
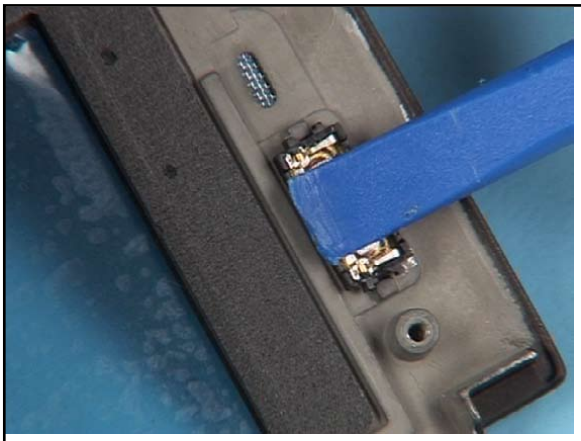


13. Touch the LCD at the shown edge only. Otherwise the delicate driver of the display will be damaged and becomes unusable.

14. Place the CMT KEYMAT.

15. Place the new EARPIECE into the A-COVER ASSEMBLY.



16. Carefully push it down at the plastic frame with the SS-93 as shown. Never push at the metal capsule, otherwise it will be impressed and the IHF SPEAKER becomes unusable.

17. Place the A-COVER ASSEMBLY, beginning at the opposite side of the hinge.

18. Do not mismatch these screws. Place this short screw...

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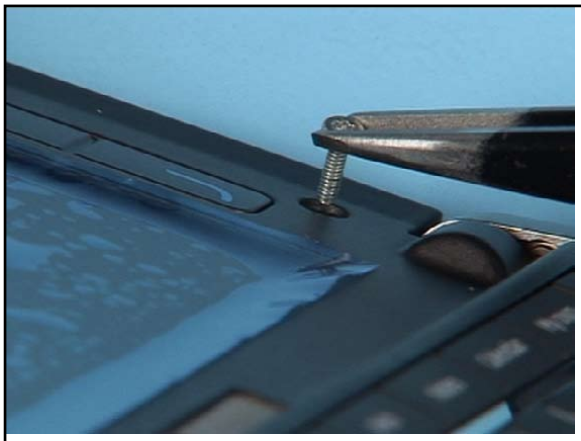
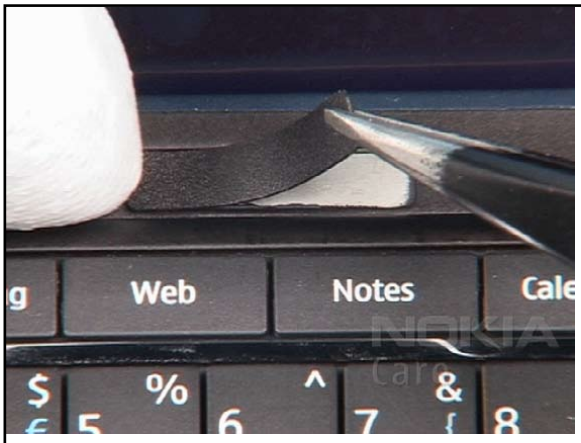
19. ...in the middle...

20. ...and these longer ones...


21. ...at both edges of the A-COVER ASSEMBLY.

22. Set the correct torque.

23. Apply the correct torque in the order shown.



24. Align the new LOGO PLATE first. Then smooth it down evenly.

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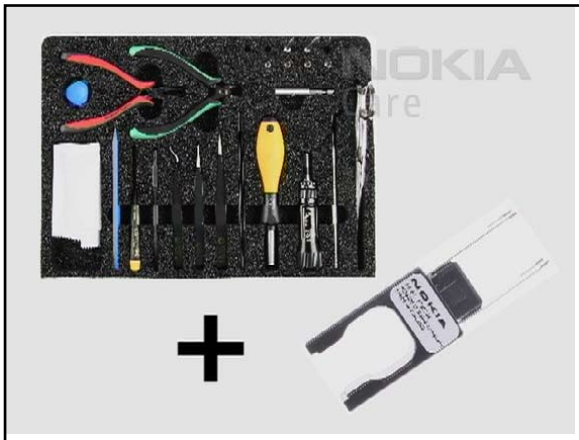
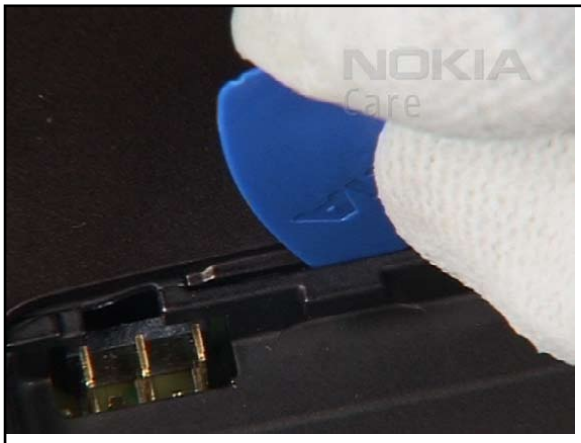
15. LOWER BLOCK DISASSEMBLY



1. You will need the Nokia Standard Toolkit version 2 and the SS-81 camera removal tool. Also refer to the General Mechanical Guideline video for additional hints about the tools and component handling.

2. Remove the BATTERY COVER.



3. Release this clip of the ANTENNA COVER with the SRT-6 first.

4. Now release the two clips on the side of the assembly.

5. Release the clip located on the edge.

6. Now the ANTENNA COVER can be removed easily.

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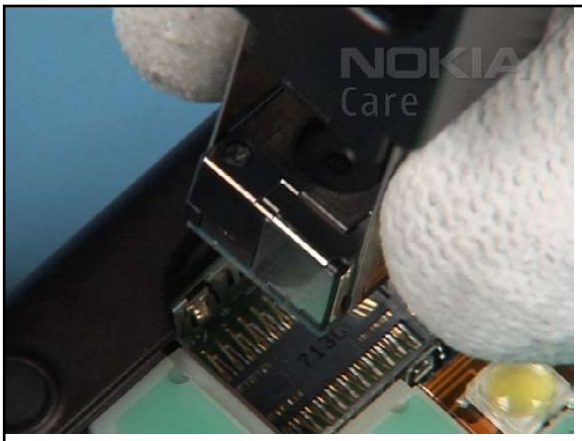
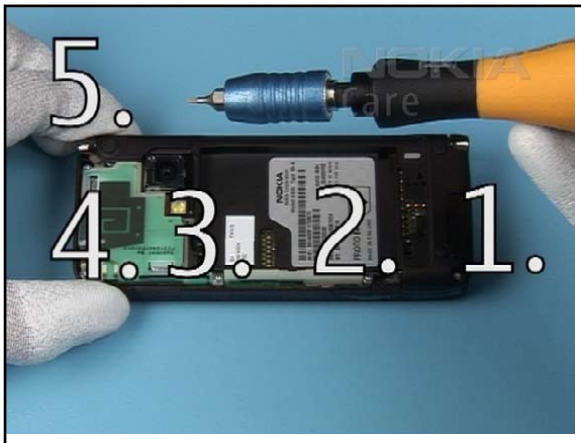
7. Pull up the FLASH GASKET.

8. Insert the SS-81 into the housing of the CAMERA MODULE. Note the correct positioning of the tool.

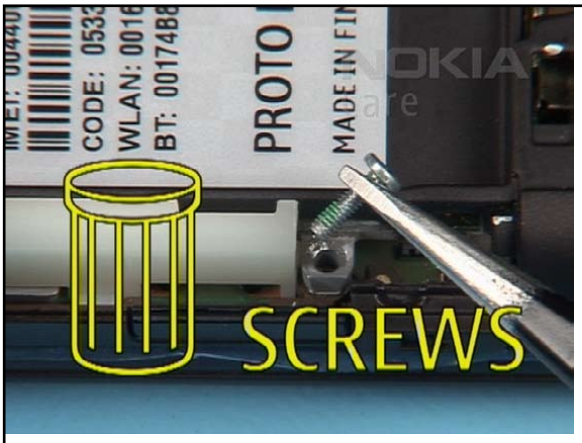
9. Gently push it down. The clips of the housing are released now.



10. Lift out the CAMERA MODULE now.



11. Unscrew these 5 TORX PLUS size 4 screws in the order shown.



12. Discard the screws. Do not use them again when reassembling.

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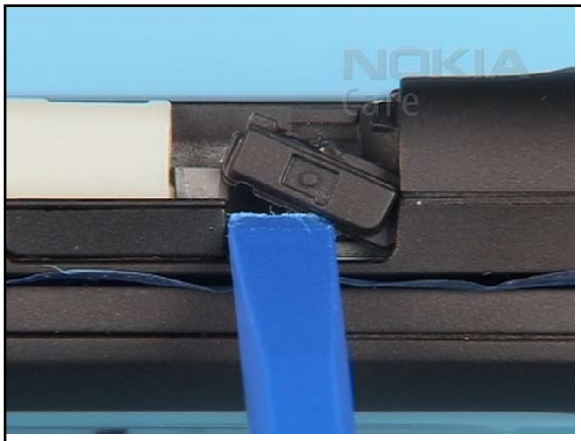
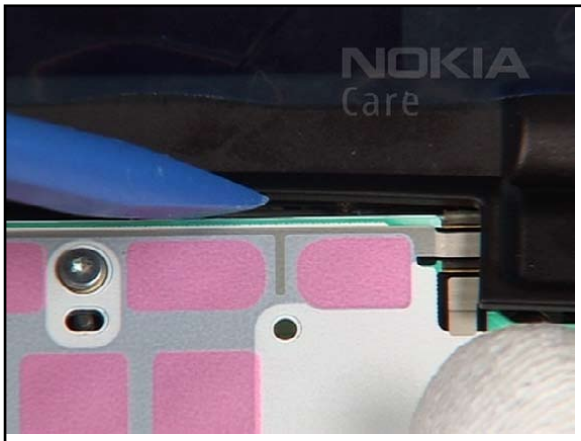


13. Lever out the CAMERA BUTTON...

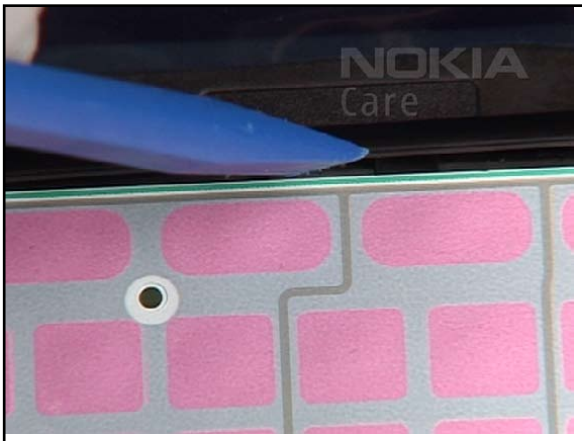
14. ...and the PUSH TO TALK BUTTON.

15. Open the assembly and lift the QWERTY COVER.

16. It is possible to remove the QWERTY KEYMAT without unlocking the QWERTY COVER.



17. Carefully release the hidden clips of the QWERTY COVER, located on the right side...



18. ...on the middle near the LOGO PLATE...

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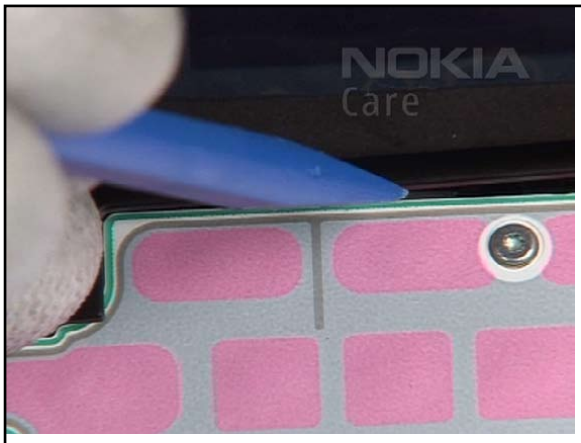
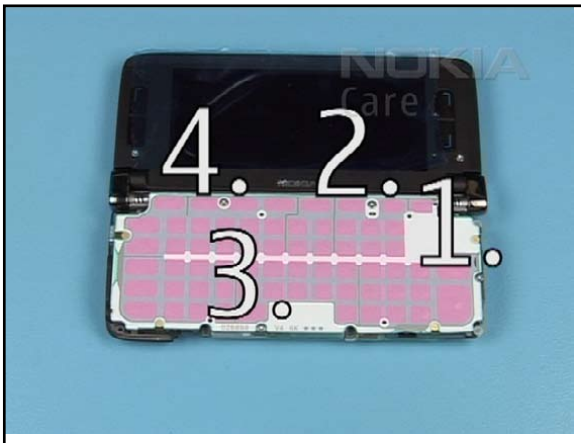
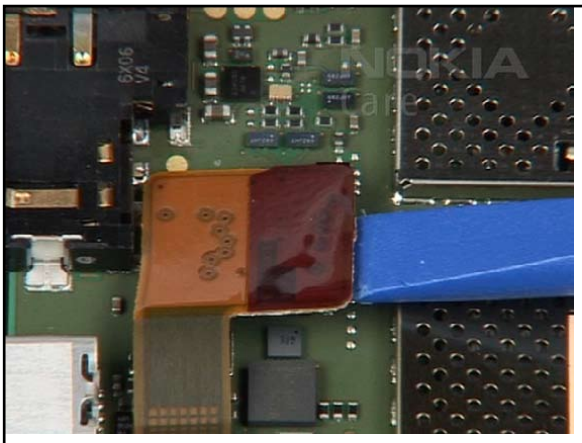


19. ...and on the left side near the hinge. After that, the QWERTY COVER can be removed easily.

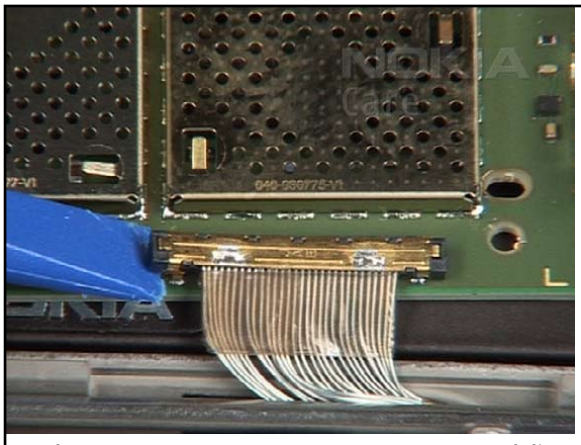


20. Unscrew these 4 Torx Plus size 4 screws in the order shown.

21. Also discard these screws. Do not use them again.



22. Mind the hidden components underneath when opening the flex foil connector.



23. The MICROCOAX HARNESS connectors are very delicate. Be double careful when releasing these 2 connectors.

24. The ENGINE MODULE can be removed now.

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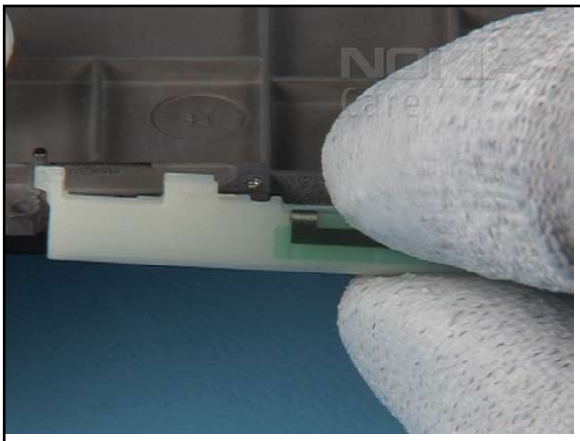
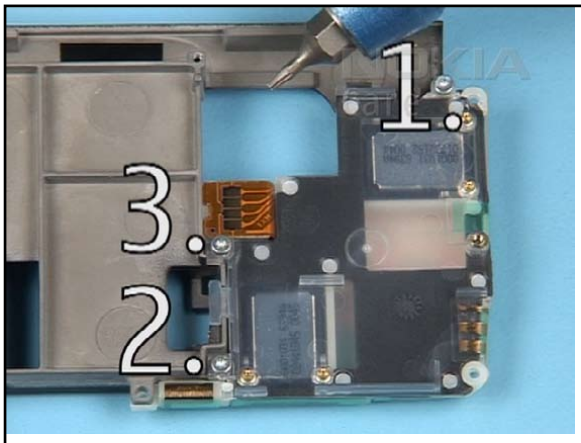
25. Unscrew this 2 Torx Plus size 4 hinge screws.

26. Discard them. Do not use them again when reassemble.

27. The upper assembly can be removed now.


28. The WLAN ANTENNA MODULE can be removed.



29. Unscrew these 3 Torx Plus size 4 screws in the shown order.

30. Discard them, do not use them again.

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31. Remove the ANTENNA/IHF MODULE.

32. The disassembly of the lower block is now complete.

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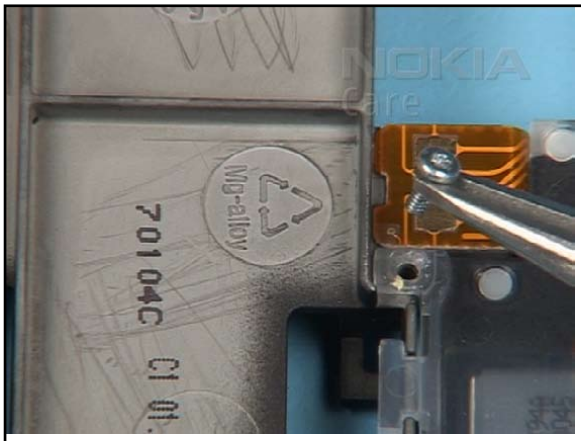
16. LOWER BLOCK ASSEMBLY

1. Assembly.

2. Note that the FLASH MODULE is very delicate and becomes useless in consequence of mechanical stress.

3. Replace the ANTENNA/IHF MODULE.

4. First take the 3 new screws 1.4M x 3.4 ...



5. ...and place them.

6. Set the correct torque.

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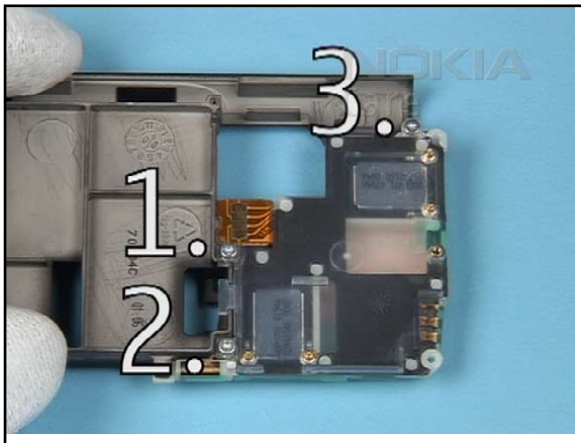
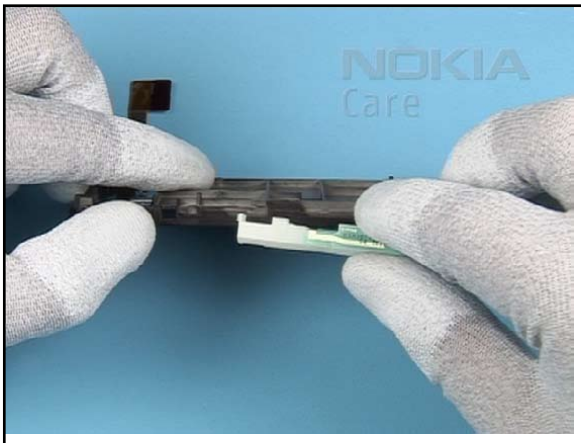
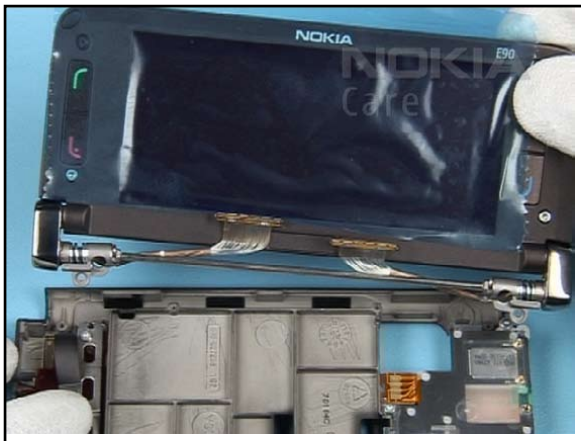


7. Apply the correct torque to the screws in the order shown.



8. Replace the WLAN-ANTENNA MODULE.



9. Replace the upper assembly. Mind the correct positioning of the cables.

10. Note: False placement will destroy the delicate MICROCOAX cables.

11. Insert the 2 hinge screws. Note! Use the correct length - M1.4 x 4.5

12. Set the correct torque.

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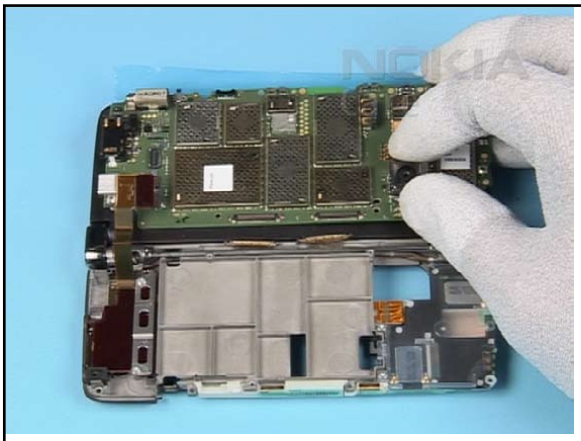
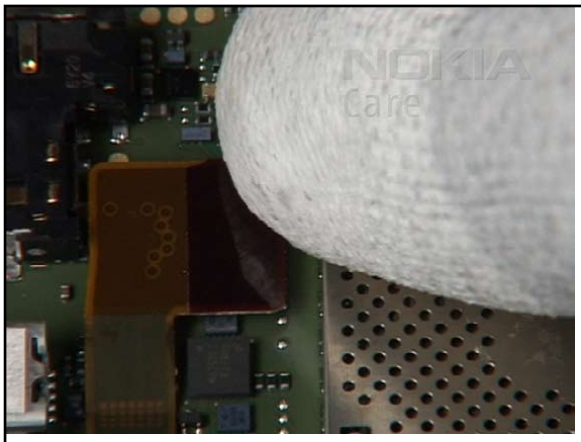
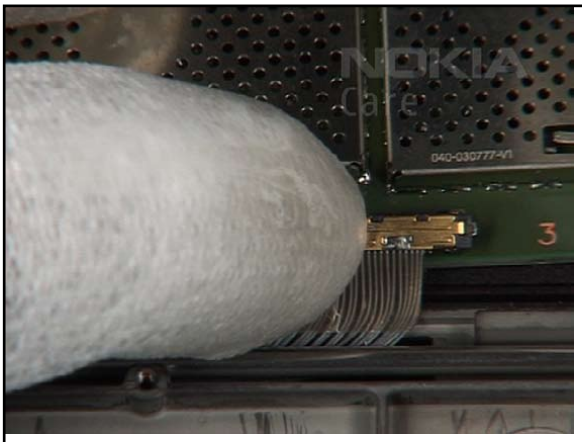
13. Apply the torque to both screws.



14. Place the ENGINE MODULE over the protected display of the upper part.



15. Close the flex foil connector.



16. Be double accurate while closing this 2 MICROCOAX HARNESS connectors.

17. Flip over the ENGINE MODULE.

18. Check the correct placement of the cables before going on.

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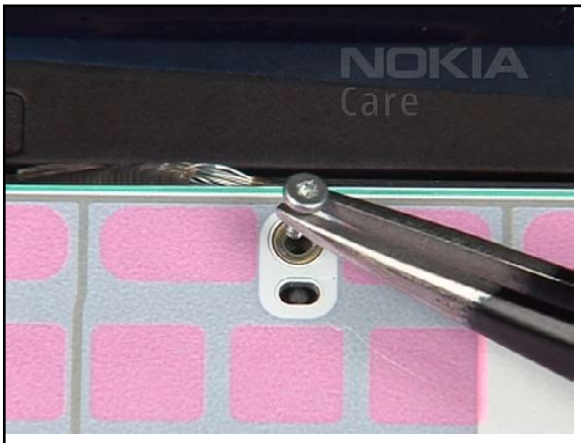
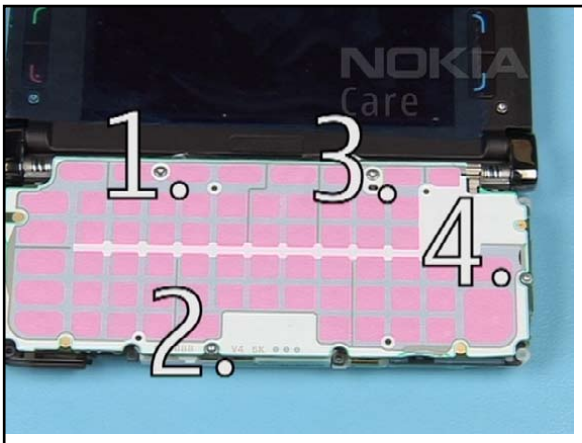
19. Take these 4 screws...



20. ...and place them into their recesses.

21. Set the correct torque.



22. Apply the torque to these screws in the order shown.

23. Replace the QWERTY COVER, beginning on the left side, where the connectors are located.

24. Close the clips, check that no cables will be squeezed, otherwise the DUAL AXIS HINGE MODULE becomes unusable.

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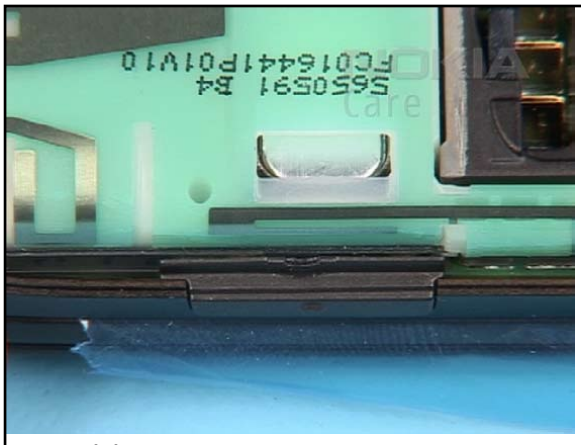
19. Insert the QWERTY KEYMAT.

20. Mind the correct positioning of the key mat before going on.

21. Click the snaps into their places.

22. Replace the CAMERA BUTTON...



23. ...and the PUSH TO TALK BUTTON.

24. Take these 5 new screws.

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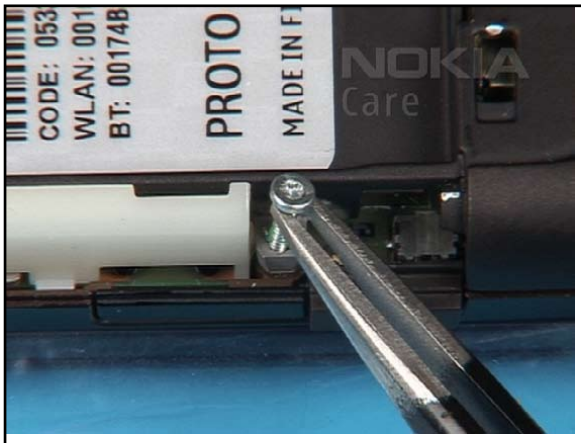
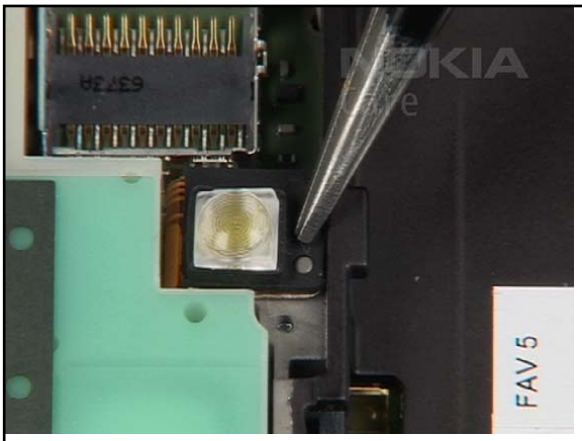


25. Place them into their threads.

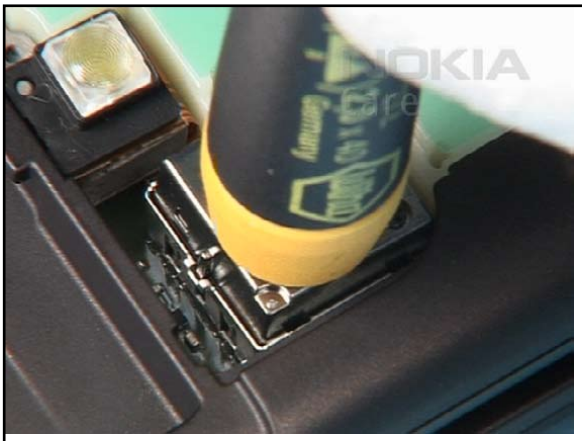
26. Set the correct torque.

27. Apply the torque to the screws in the shown order.



28. Replace the FLASH GASKET.

29. Mind the alignment tab while replacing the CAMERA MODULE.



30. Push it into its housing evenly.

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31. Mind the cleanness of the camera and window when replacing the ANTENNA COVER, beginning at the hinge side.

32. Close this clip first...

33. ...then the clip on the edge...

34. ...followed by the 2 snaps at this side.

35. The last clip is located close to the CAMERA BUTTON. Click it into its place slightly.

36. Replace the BATTERY COVER.

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17. LEGEND FOR QUICK TROUBLE SHOOTER

Legend for Quick Trouble Shooter

This legend is valid for all parts of the Quick Trouble Shooter

Follow the steps until the problem is solved. If this doesn´t help, you are not authorized to go forward.

Check the mechanical condition of the component (bent, broken or missing).

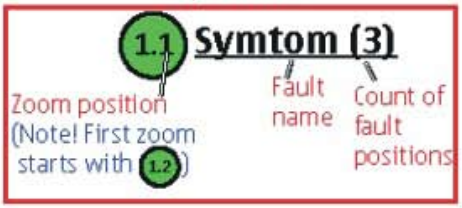
Only marked components can be replaced.
If additionally "**=CHANGE ASSY**" appears, then change the whole assembly (e.g. A4=D-COVER ASSEMBLY).

Cloth usage: Check pads or contacts for optical and mechanical condition particularly regarding to corrosion. Clean it if necessary.

Measure component for electrical functionality and change, if needed.
(Level 2 only)

ESD Brush usage: Check contacts for optical and mechanical condition particularly regarding to corrosion. Clean it if necessary.

Explanation



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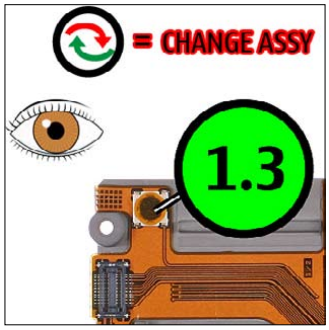
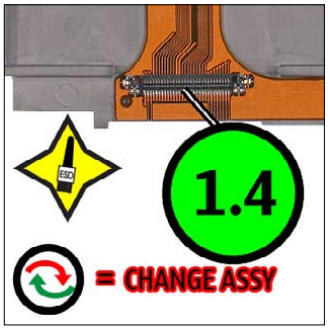
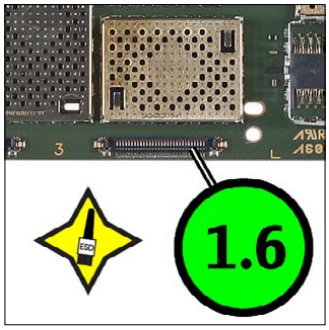
18. QUICK TROUBLE SHOOTER - POWER ON







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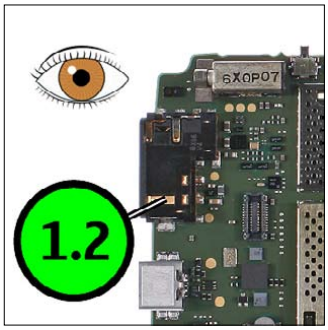
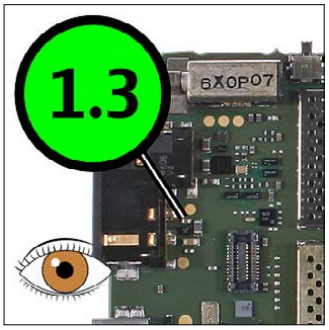
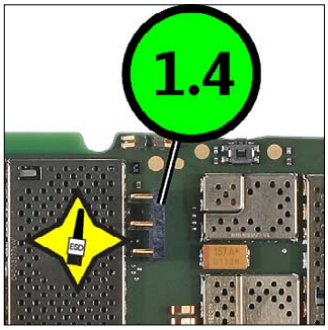
19. QUICK TROUBLE SHOOTER - CHARGING







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20. QUICK TROUBLE SHOOTER - NO SERVICE

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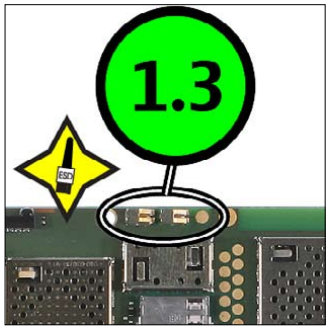
21. QUICK TROUBLE SHOOTER - WLAN/BLUETOOTH



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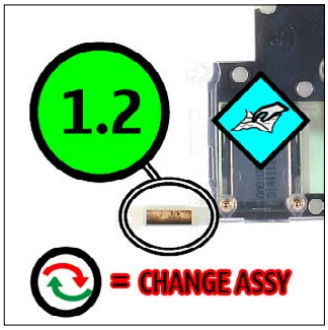
22. QUICK TROUBLE SHOOTER - GPS



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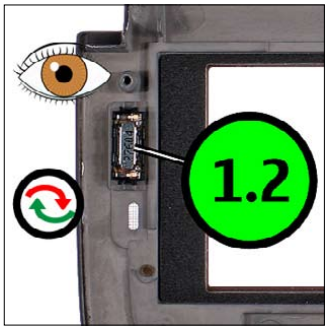
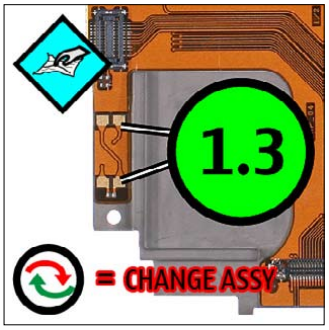
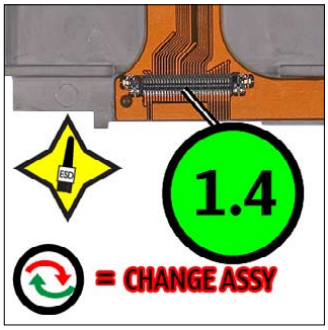
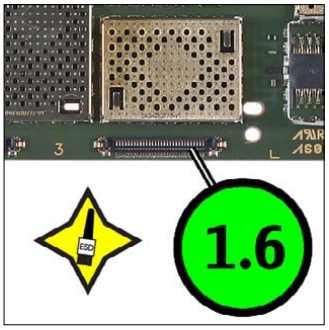
23. QUICK TROUBLE SHOOTER - EARPIECE









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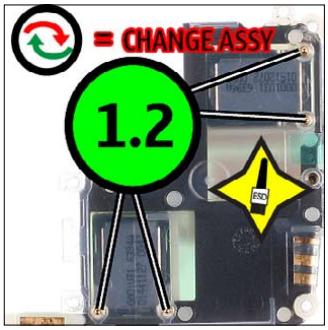
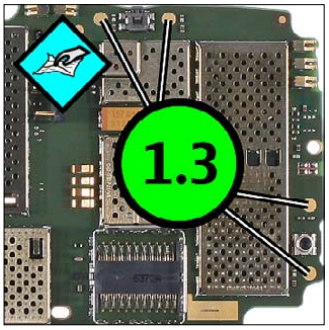
24. QUICK TROUBLE SHOOTER - IHF SPEAKER





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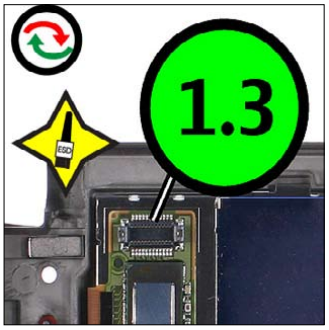
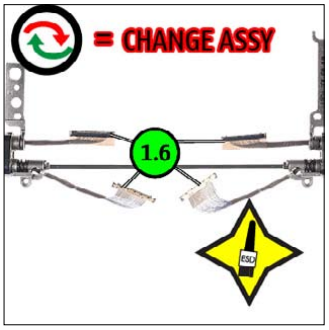
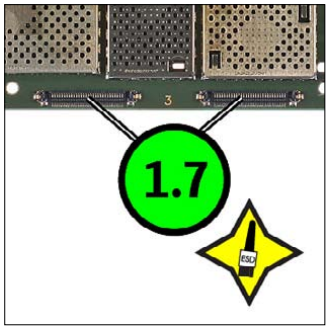
25. QUICK TROUBLE SHOOTER - DISPLAY







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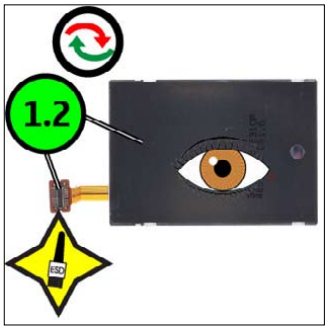
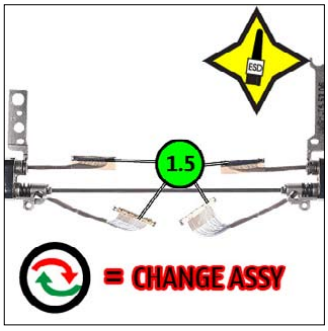
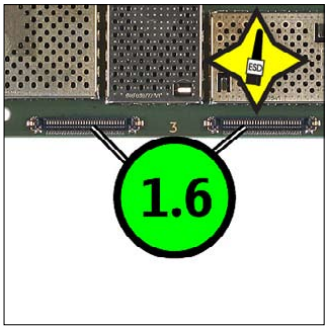
26. QUICK TROUBLE SHOOTER - SUB DISPLAY







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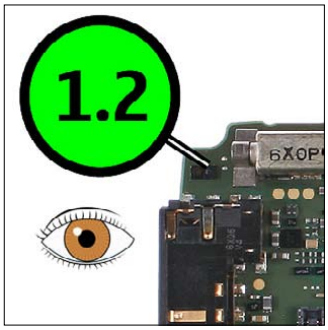
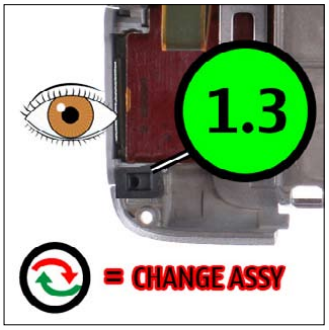
27. QUICK TROUBLE SHOOTER - MICROPHONE





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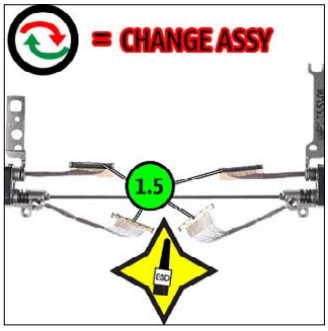
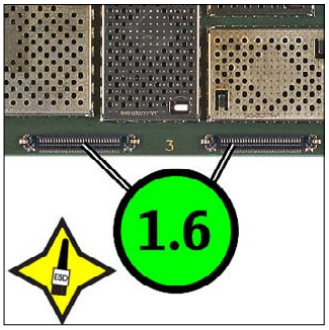
28. QUICK TROUBLE SHOOTER - CMT KEYMAT





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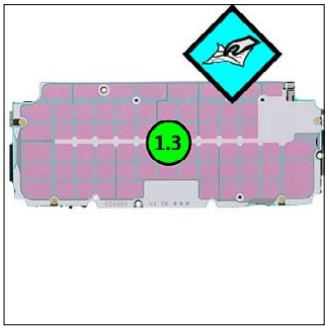
29. QUICK TROUBLE SHOOTER - QWERTY KEYMAT



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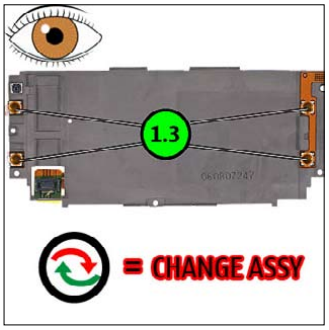
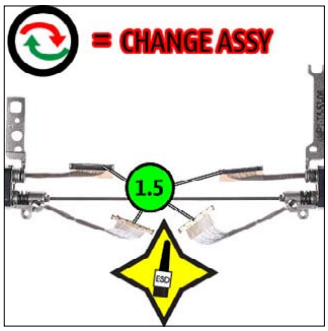
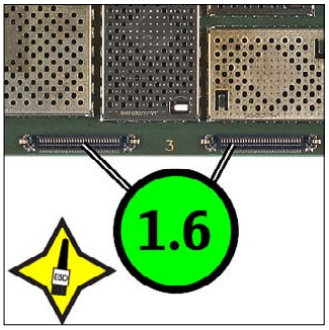
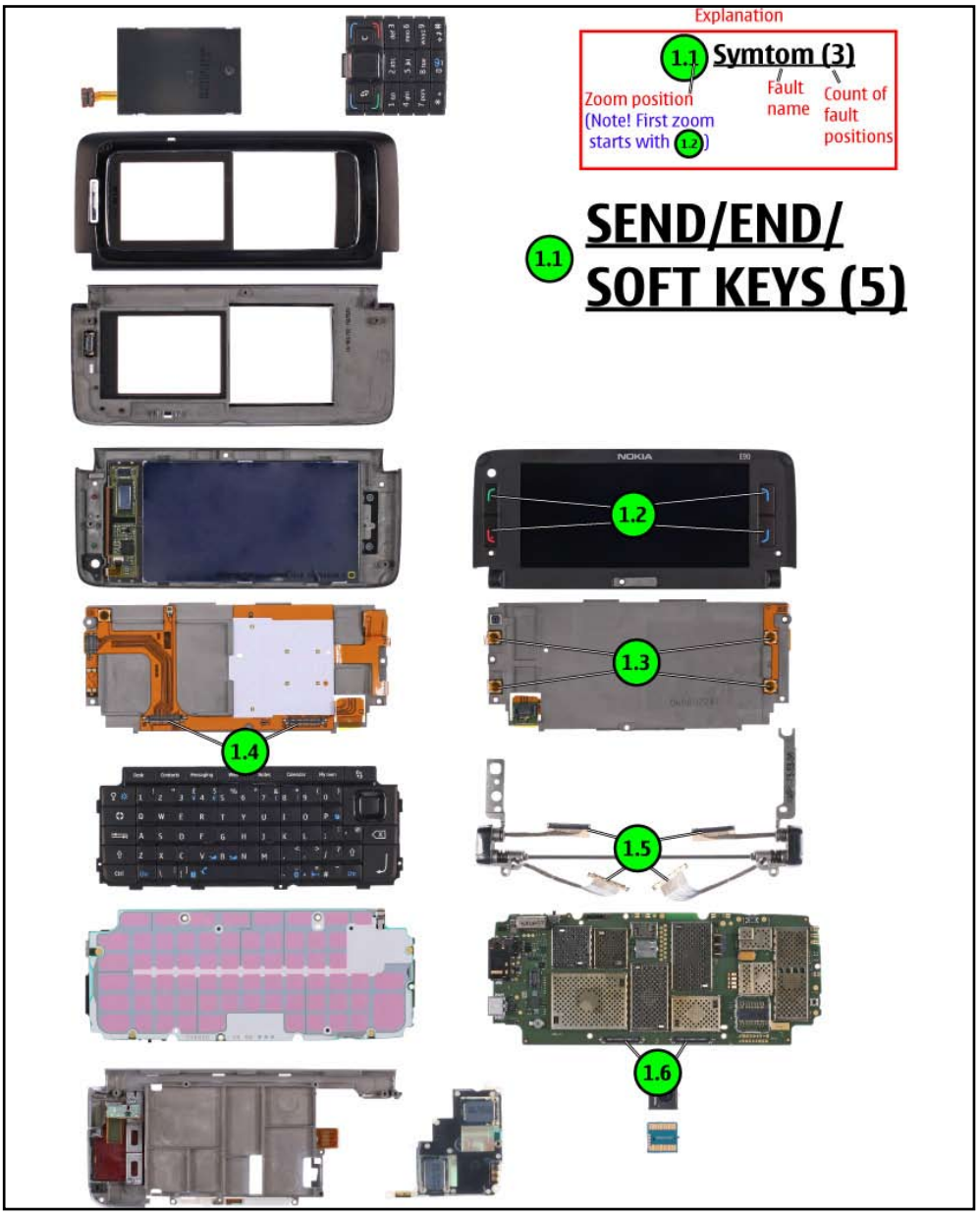
30. QUICK TROUBLE SHOOTER - SEND/END/SOFT KEYS









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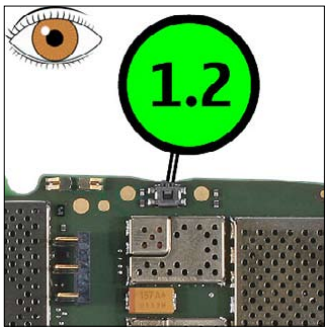
31. QUICK TROUBLE SHOOTER - PUSH TO TALK KEY



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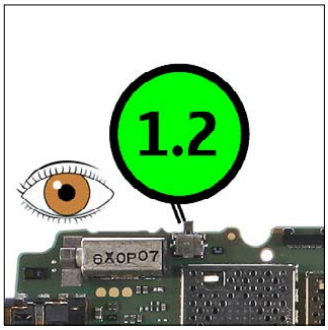
32. QUICK TROUBLE SHOOTER - CAMERA KEY



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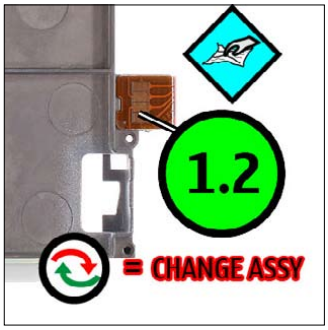
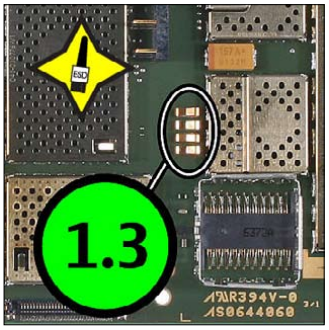
33. QUICK TROUBLE SHOOTER - FLASH LIGHT





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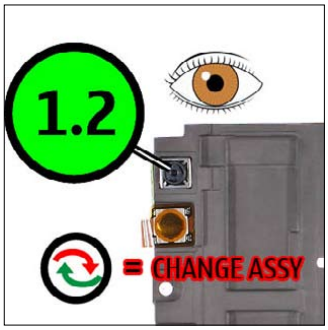
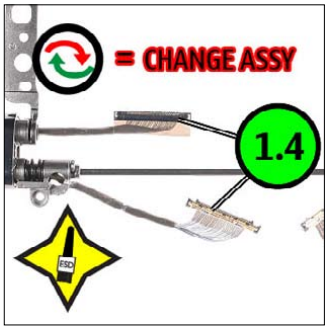
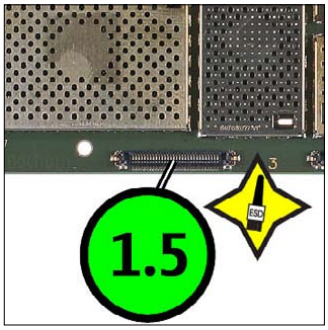
34. QUICK TROUBLE SHOOTER - SUB CAMERA







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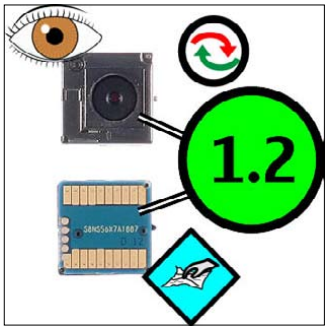
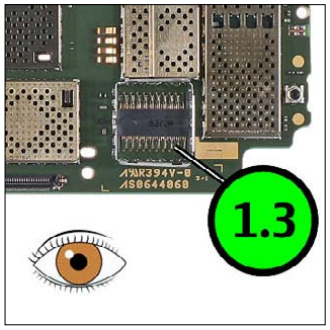
35. QUICK TROUBLE SHOOTER - CAMERA





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